

8. CONDUCTED SPURIOUS EMISSION

8.1 DESCRIPTION OF CONDUCTED SPURIOUS EMISSION MEASUREMENT

8.1.1 MEASUREMENT METHOD

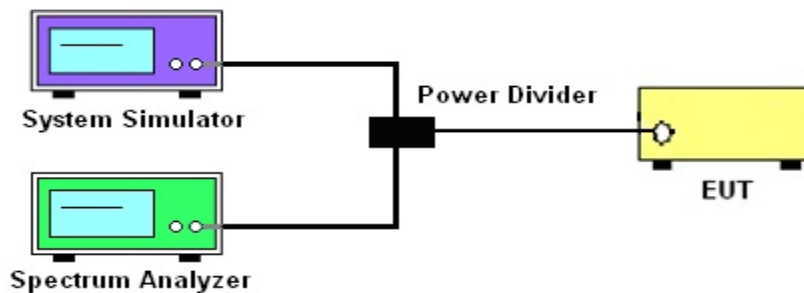
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 7:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

8.1.2 TEST SETUP



8.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 v02r02 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement
4. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)} = [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$

	LTE					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	Auto	Auto	Auto	Auto	Auto	Auto
RBW	1000kHz	1000kHz	1000kHz	1000kHz	1000kHz	1000kHz
VBW	3000kHz	3000kHz	3000kHz	3000kHz	3000kHz	3000kHz
Detector	PK	PK	PK	PK	PK	PK
Trace	Max	Max	Max	Max	Max	Max



8.1.4 TEST RESULTS

LTE BAND 4

LTE Band 4 / 1.4MHz /Emission

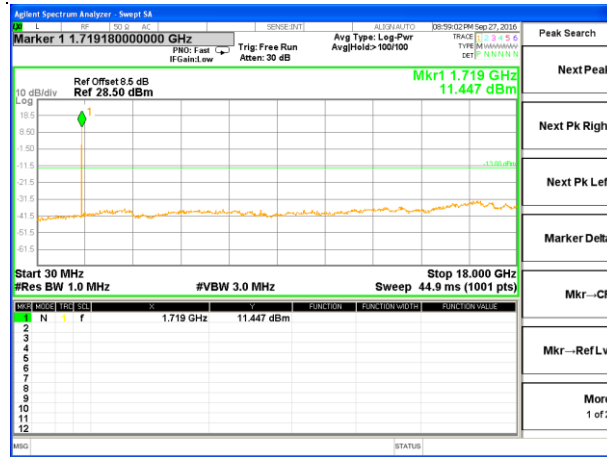




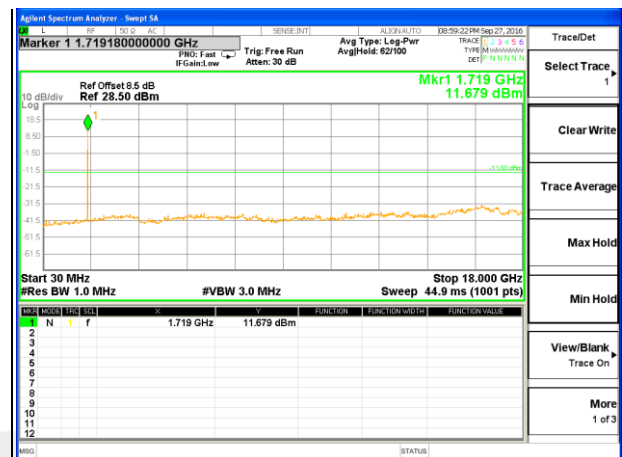
LTE BAND 4

LTE Band 4 / 3MHz /Emission

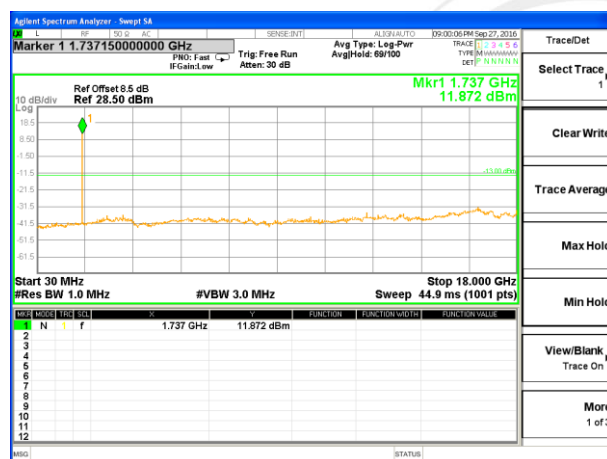
Lowest Channel / QPSK



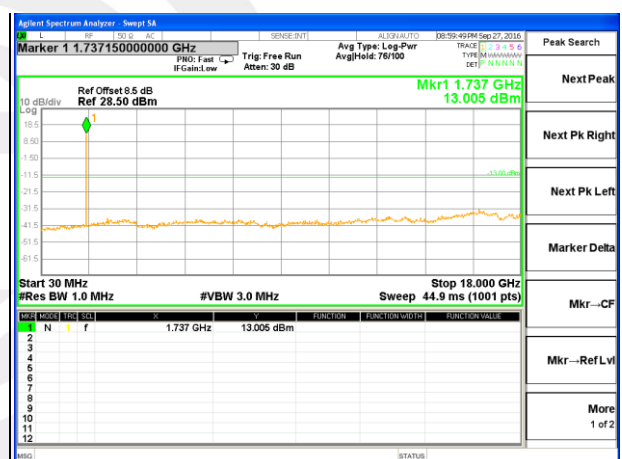
Lowest Channel / 16QAM



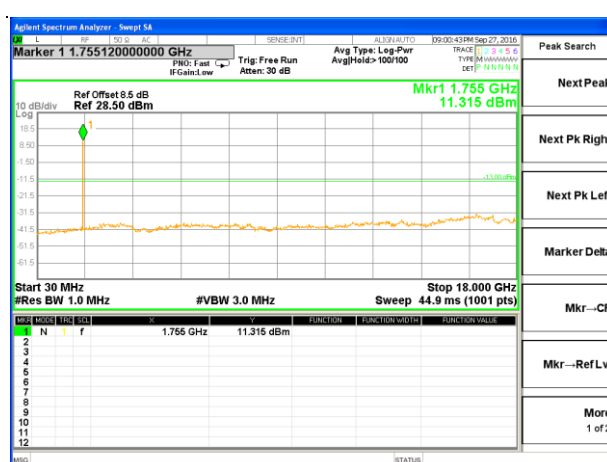
Middle Channel / QPSK



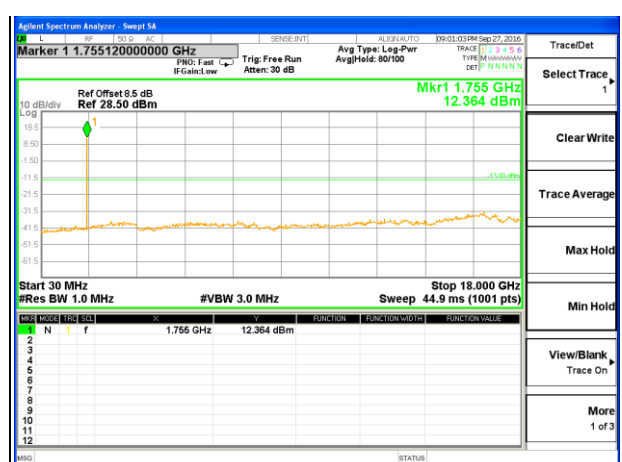
Middle Channel / 16QAM



Highest Channel / QPSK



Highest Channel / 16QAM

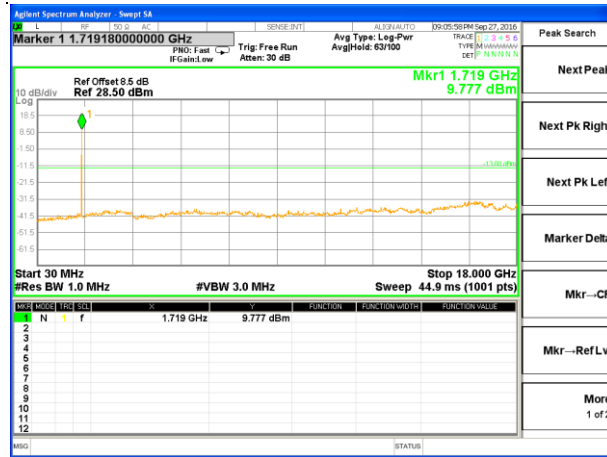




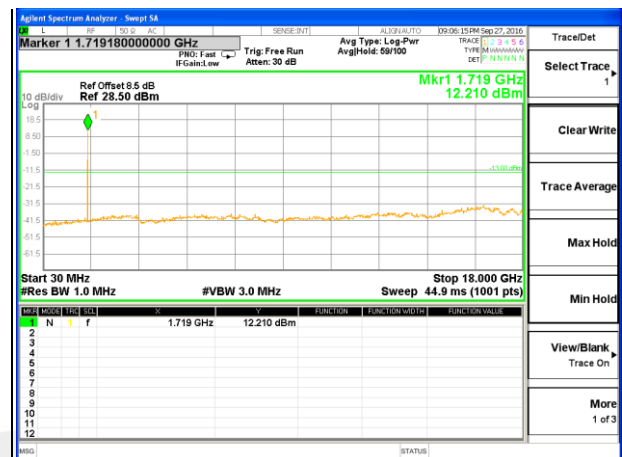
LTE BAND 4

LTE Band 4 / 5MHz /Emission

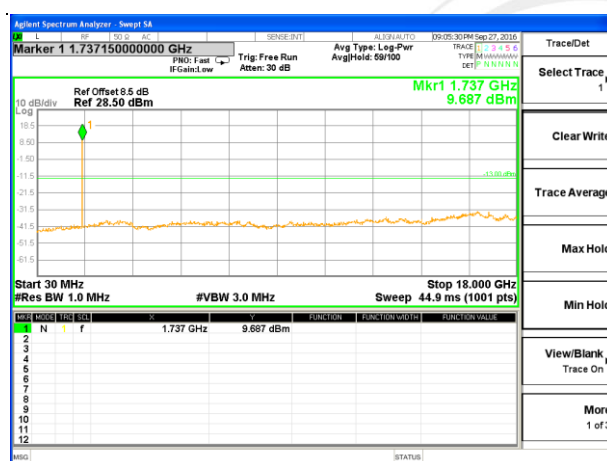
Lowest Channel / QPSK



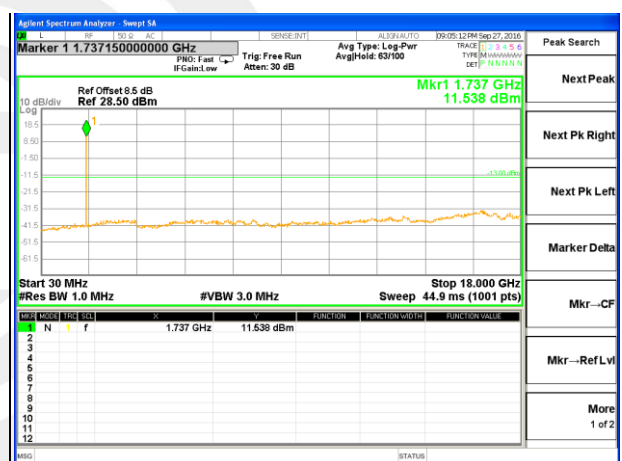
Lowest Channel / 16QAM



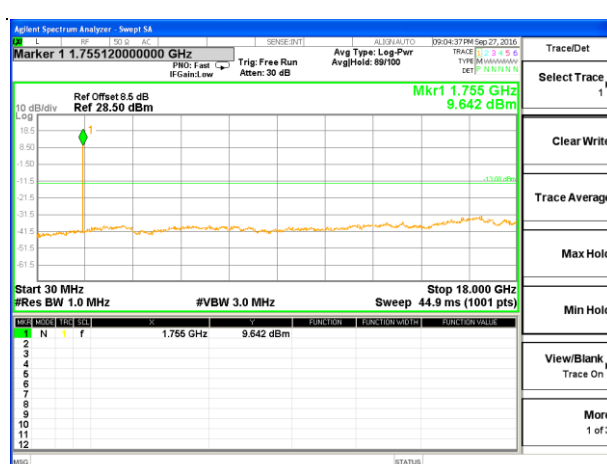
Middle Channel / QPSK



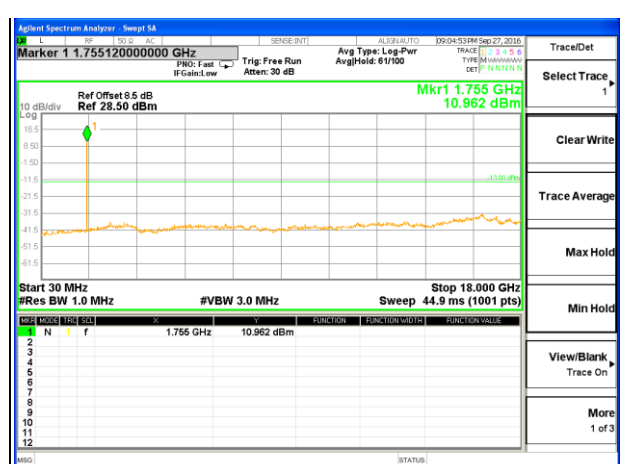
Middle Channel / 16QAM



Highest Channel / QPSK



Highest Channel / 16QAM

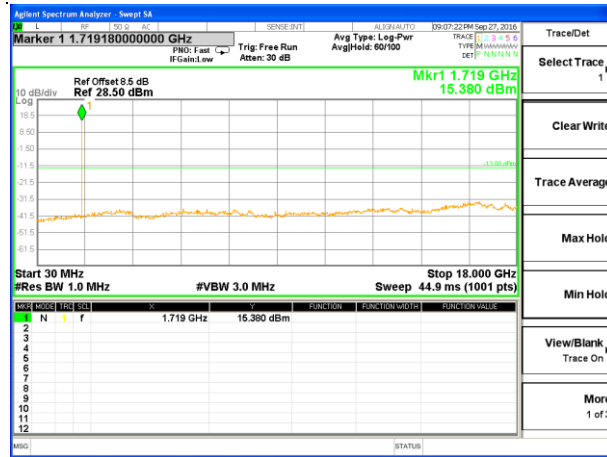




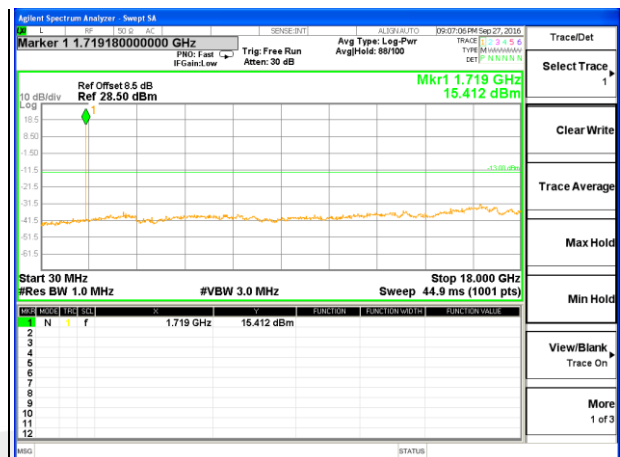
LTE BAND 4

LTE Band 4 / 10MHz /Emission

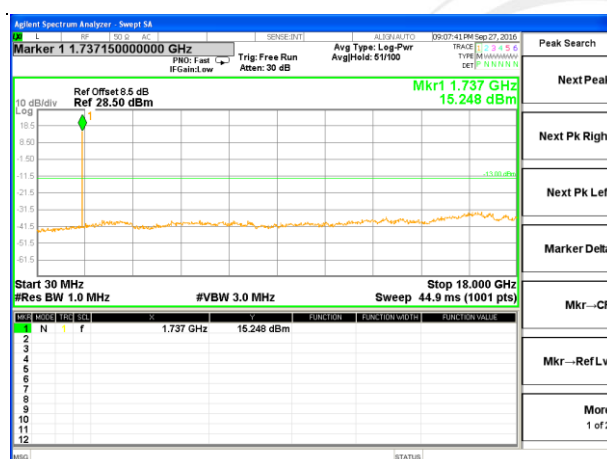
Lowest Channel / QPSK



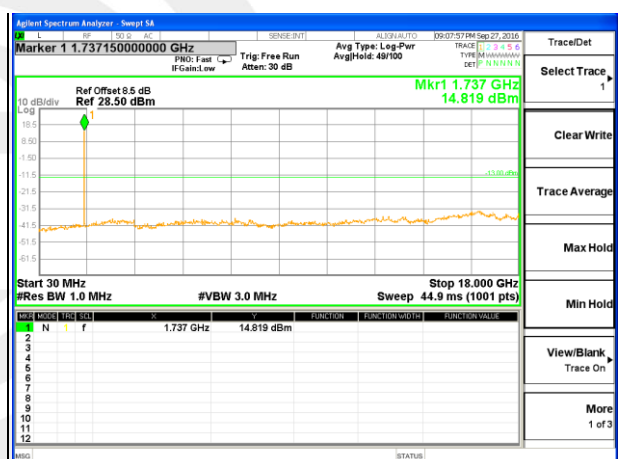
Lowest Channel / 16QAM



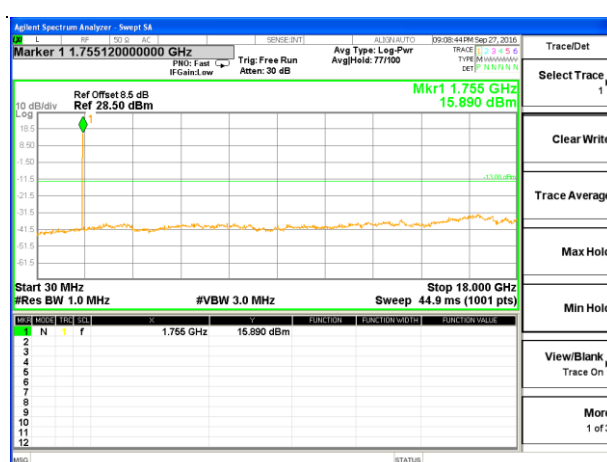
Middle Channel / QPSK



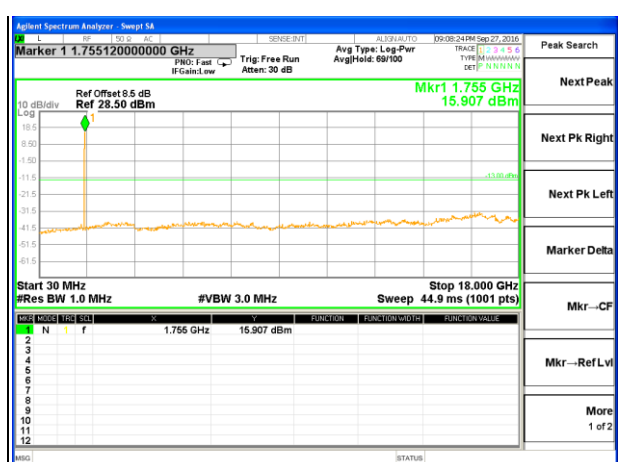
Middle Channel / 16QAM



Highest Channel / QPSK



Highest Channel / 16QAM

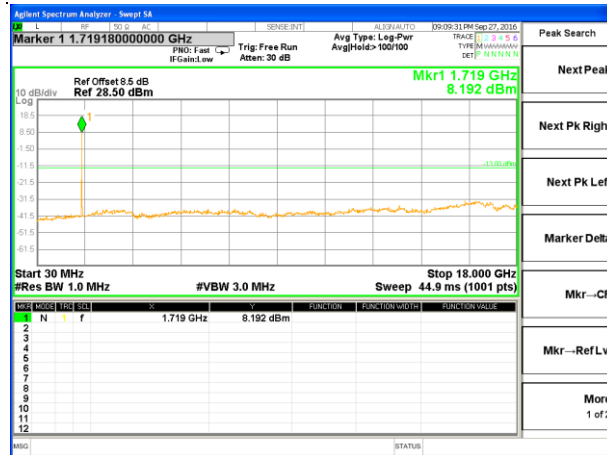




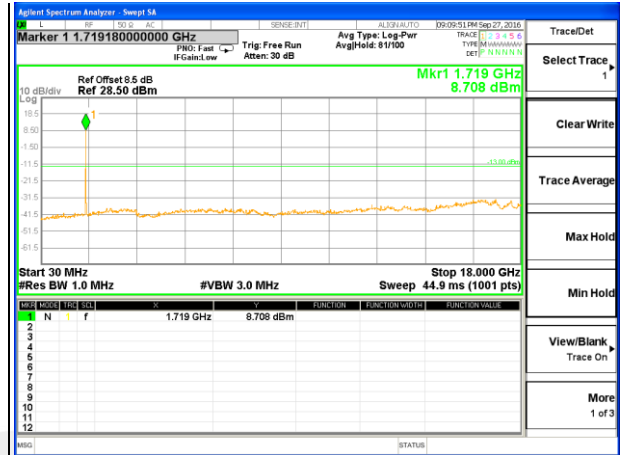
LTE BAND 4

LTE Band 4 / 15MHz /Emission

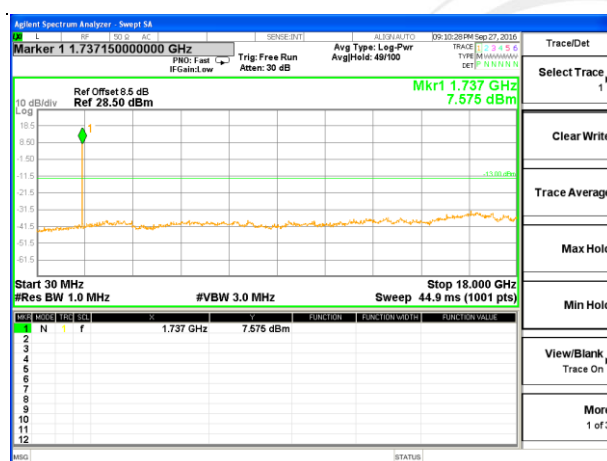
Lowest Channel / QPSK



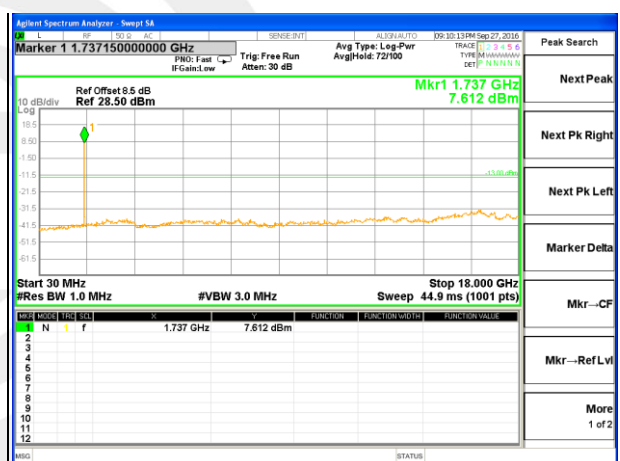
Lowest Channel / 16QAM



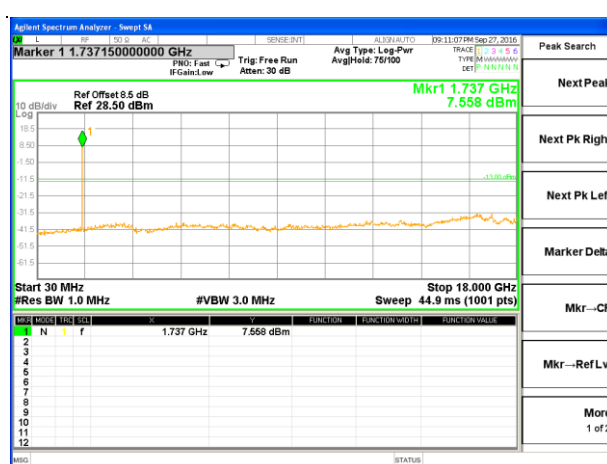
Middle Channel / QPSK



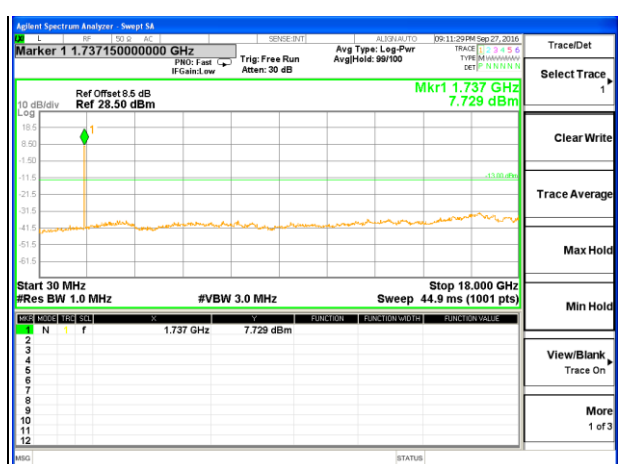
Middle Channel / 16QAM



Highest Channel / QPSK



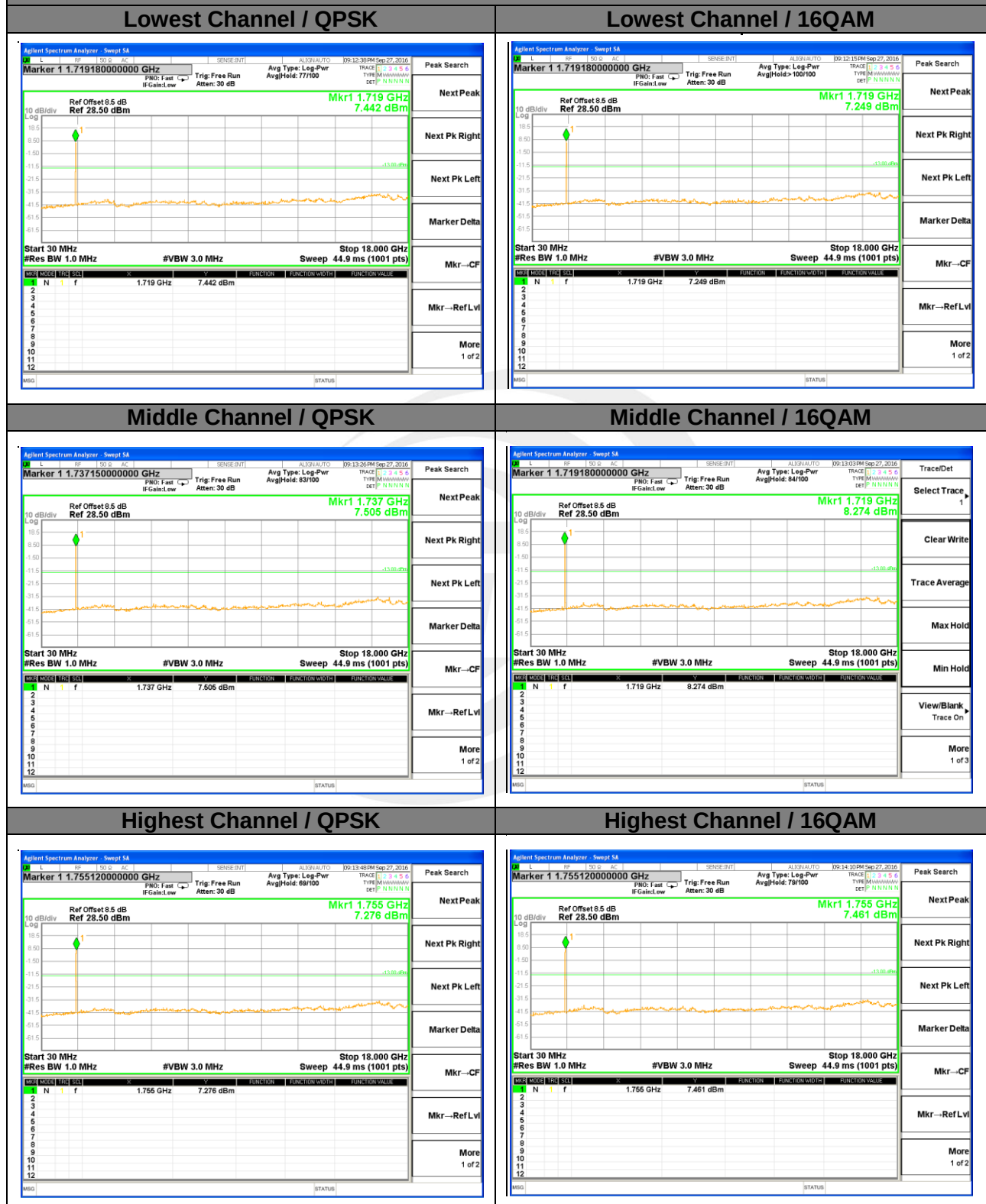
Highest Channel / 16QAM





LTE BAND 4

LTE Band 4 / 20MHz /Emission



9. RADIATED SPURIOUS EMISSION

9.1 DESCRIPTION OF RADIATED SPURIOUS EMISSION

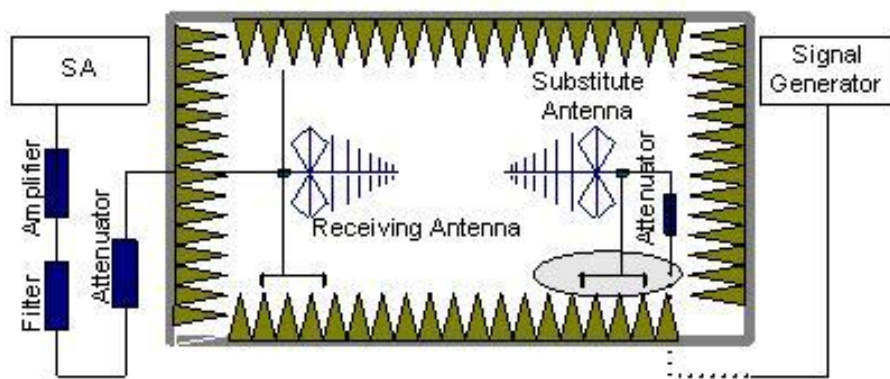
9.1.1 MEASUREMENT METHOD

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. For Band 7 The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB. For Band. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

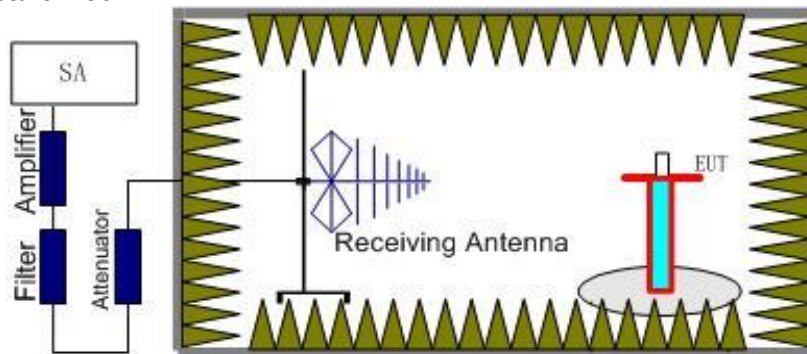
5.1.2 Test Setup

The procedure of radiated spurious emissions is as follows:

a) Pre-calibration With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as, $RSE = R_x \text{ (dBuV)} + CL \text{ (dB)} + SA \text{ (dB)} + Gain \text{ (dBi)} - 107 \text{ (dBuV to dBm)}$ The SA is calibrated using following setup.



b) EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector and 1MHz bandwidth.



Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of any band into any of the other blocks.



The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below: Power=PMea+ARpl

9.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-C-2009 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm

9.1.4 TEST RESULTS

**LTE BAND 4**

LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3422.35	-34.78	12.90	12.56	-34.44	-13.00	-21.44	H
5133.35	-34.22	13.10	12.46	-33.58	-13.00	-20.58	H
6844.52	-33.14	12.33	21.13	-41.94	-13.00	-28.94	H
3422.35	-34.91	12.90	12.76	-34.77	-13.00	-21.77	V
5133.35	-35.02	13.10	16.32	-38.24	-13.00	-25.24	V
6844.52	-32.55	12.33	21.13	-41.35	-13.00	-28.35	V
LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3465.79	-34.46	12.80	12.56	-34.22	-13.00	-21.22	H
5198.86	-35.38	13.10	12.46	-34.74	-13.00	-21.74	H
6932.19	-32.76	12.33	21.13	-41.56	-13.00	-28.56	H
3465.79	-34.68	12.80	12.76	-34.64	-13.00	-21.64	V
5198.86	-34.85	13.10	16.32	-38.07	-13.00	-25.07	V
6932.19	-33.10	12.33	21.13	-41.90	-13.00	-28.90	V
LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3508.28	-34.84	12.61	12.56	-34.79	-13.00	-21.79	H
5262.21	-34.38	13.12	12.46	-33.72	-13.00	-20.72	H
7016.07	-33.55	12.32	21.13	-42.36	-13.00	-29.36	H
3508.28	-35.11	12.61	12.76	-35.26	-13.00	-22.26	V
5262.21	-33.94	13.12	16.32	-37.14	-13.00	-24.14	V
7016.07	-32.15	12.32	21.13	-40.96	-13.00	-27.96	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 4**

LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3424.45	-33.44	12.90	12.56	-33.10	-13.00	-20.10	H
5136.20	-34.05	13.10	12.46	-33.41	-13.00	-20.41	H
6848.71	-33.52	12.33	21.13	-42.32	-13.00	-29.32	H
3424.45	-35.56	12.90	12.76	-35.42	-13.00	-22.42	V
5136.20	-34.77	13.10	16.32	-37.99	-13.00	-24.99	V
6848.71	-32.61	12.33	21.13	-41.41	-13.00	-28.41	V
LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3466.09	-34.65	12.80	12.56	-34.41	-13.00	-21.41	H
5198.87	-34.33	13.10	12.46	-33.69	-13.00	-20.69	H
6931.97	-32.42	12.33	21.13	-41.22	-13.00	-28.22	H
3466.09	-35.16	12.80	12.76	-35.12	-13.00	-22.12	V
5198.87	-34.59	13.10	16.32	-37.81	-13.00	-24.81	V
6931.97	-31.81	12.33	21.13	-40.61	-13.00	-27.61	V
LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3506.53	-33.63	12.61	12.56	-33.58	-13.00	-20.58	H
5262.06	-34.40	13.12	12.46	-33.74	-13.00	-20.74	H
7013.16	-33.41	12.32	21.13	-42.22	-13.00	-29.22	H
3506.53	-35.06	12.61	12.76	-35.21	-13.00	-22.21	V
5262.06	-34.80	13.12	16.32	-38.00	-13.00	-25.00	V
7013.16	-32.02	12.32	21.13	-40.83	-13.00	-27.83	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 4**

LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3426.05	-34.65	12.90	12.56	-34.31	-13.00	-21.31	H
5139.56	-34.07	13.10	12.46	-33.43	-13.00	-20.43	H
6852.71	-33.03	12.33	21.13	-41.83	-13.00	-28.83	H
3426.05	-34.79	12.90	12.76	-34.65	-13.00	-21.65	V
5139.56	-35.13	13.10	16.32	-38.35	-13.00	-25.35	V
6852.71	-32.03	12.33	21.13	-40.83	-13.00	-27.83	V
LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3466.07	-34.48	12.80	12.56	-34.24	-13.00	-21.24	H
5199.29	-35.17	13.10	12.46	-34.53	-13.00	-21.53	H
6932.28	-33.11	12.33	21.13	-41.91	-13.00	-28.91	H
3466.07	-35.74	12.80	12.76	-35.70	-13.00	-22.70	V
5199.29	-34.66	13.10	16.32	-37.88	-13.00	-24.88	V
6932.28	-32.66	12.33	21.13	-41.46	-13.00	-28.46	V
LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3506.78	-34.13	12.61	12.56	-34.08	-13.00	-21.08	H
5262.36	-34.60	13.12	12.46	-33.94	-13.00	-20.94	H
7013.25	-33.14	12.32	21.13	-41.95	-13.00	-28.95	H
3506.78	-35.89	12.61	12.76	-36.04	-13.00	-23.04	V
5262.36	-34.42	13.12	16.32	-37.62	-13.00	-24.62	V
7013.25	-31.88	12.32	21.13	-40.69	-13.00	-27.69	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 4**

LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3436.11	-33.88	12.90	12.56	-33.54	-13.00	-20.54	H
5154.28	-34.76	13.10	12.46	-34.12	-13.00	-21.12	H
6872.86	-32.26	12.33	21.13	-41.06	-13.00	-28.06	H
3436.11	-35.87	12.90	12.76	-35.73	-13.00	-22.73	V
5154.28	-34.99	13.10	16.32	-38.21	-13.00	-25.21	V
6872.86	-32.69	12.33	21.13	-41.49	-13.00	-28.49	V
LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3466.14	-34.05	12.80	12.56	-33.81	-13.00	-20.81	H
5198.91	-34.94	13.10	12.46	-34.30	-13.00	-21.30	H
6932.28	-33.16	12.33	21.13	-41.96	-13.00	-28.96	H
3466.14	-35.16	12.80	12.76	-35.12	-13.00	-22.12	V
5198.91	-33.77	13.10	16.32	-36.99	-13.00	-23.99	V
6932.28	-31.73	12.33	21.13	-40.53	-13.00	-27.53	V
LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3494.37	-34.21	12.61	12.56	-34.16	-13.00	-21.16	H
5241.21	-34.16	13.12	12.46	-33.50	-13.00	-20.50	H
6988.12	-32.91	12.32	21.13	-41.72	-13.00	-28.72	H
3494.37	-35.30	12.61	12.76	-35.45	-13.00	-22.45	V
5241.21	-33.80	13.12	16.32	-37.00	-13.00	-24.00	V
6988.12	-31.98	12.32	21.13	-40.79	-13.00	-27.79	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 4**

LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3436.45	-34.78	12.90	12.56	-34.44	-13.00	-21.44	H
5154.26	-35.31	13.10	12.46	-34.67	-13.00	-21.67	H
6872.55	-32.76	12.33	21.13	-41.56	-13.00	-28.56	H
3436.45	-35.33	12.90	12.76	-35.19	-13.00	-22.19	V
5154.26	-34.48	13.10	16.32	-37.70	-13.00	-24.70	V
6872.55	-31.73	12.33	21.13	-40.53	-13.00	-27.53	V
LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3466.25	-34.77	12.80	12.56	-34.53	-13.00	-21.53	H
5198.95	-35.02	13.10	12.46	-34.38	-13.00	-21.38	H
6932.27	-33.01	12.33	21.13	-41.81	-13.00	-28.81	H
3466.25	-35.92	12.80	12.76	-35.88	-13.00	-22.88	V
5198.95	-34.77	13.10	16.32	-37.99	-13.00	-24.99	V
6932.27	-31.78	12.33	21.13	-40.58	-13.00	-27.58	V
LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3494.46	-34.06	12.61	12.56	-34.01	-13.00	-21.01	H
5242.29	-34.84	13.12	12.46	-34.18	-13.00	-21.18	H
6989.46	-32.90	12.32	21.13	-41.71	-13.00	-28.71	H
3494.46	-34.67	12.61	12.76	-34.82	-13.00	-21.82	V
5242.29	-34.88	13.12	16.32	-38.08	-13.00	-25.08	V
6989.46	-32.50	12.32	21.13	-41.31	-13.00	-28.31	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 4**

LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3440.48	-33.99	12.90	12.56	-33.65	-13.00	-20.65	H
5160.47	-34.72	13.10	12.46	-34.08	-13.00	-21.08	H
6880.56	-33.43	12.33	21.13	-42.23	-13.00	-29.23	H
3440.48	-35.48	12.90	12.76	-35.34	-13.00	-22.34	V
5160.47	-34.10	13.10	16.32	-37.32	-13.00	-24.32	V
6880.56	-33.13	12.33	21.13	-41.93	-13.00	-28.93	V
LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3465.94	-34.54	12.80	12.56	-34.30	-13.00	-21.30	H
5199.09	-34.39	13.10	12.46	-33.75	-13.00	-20.75	H
6932.25	-33.03	12.33	21.13	-41.83	-13.00	-28.83	H
3465.94	-35.89	12.80	12.76	-35.85	-13.00	-22.85	V
5199.09	-34.66	13.10	16.32	-37.88	-13.00	-24.88	V
6932.25	-32.77	12.33	21.13	-41.57	-13.00	-28.57	V
LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3490.76	-33.51	12.61	12.56	-33.46	-13.00	-20.46	H
5235.28	-34.42	13.12	12.46	-33.76	-13.00	-20.76	H
6980.09	-32.45	12.32	21.13	-41.26	-13.00	-28.26	H
3490.76	-35.47	12.61	12.76	-35.62	-13.00	-22.62	V
5235.28	-34.26	13.12	16.32	-37.46	-13.00	-24.46	V
6980.09	-31.85	12.32	21.13	-40.66	-13.00	-27.66	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

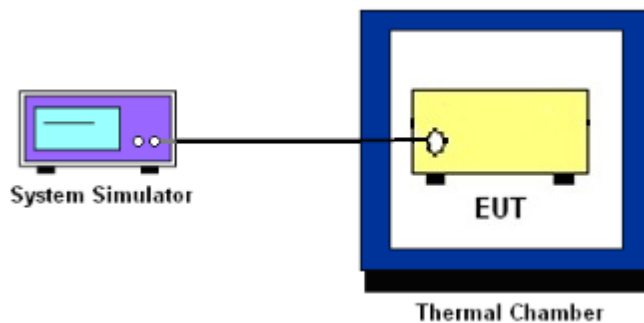
10. FREQUENCY STABILITY

10.1 DESCRIPTION OF FREQUENCY STABILITY MEASUREMENT

10.1.1 MEASUREMENT METHOD

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

10.1.2 Test Setup



10.1.3 TEST PROCEDURES FOR TEMPERATURE VARIATION

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

10.1.4 TEST PROCEDURES FOR VOLTAGE VARIATION

1. The testing follows FCC KDB 971168 v02r02 Section 9.0.
2. The EUT was placed in a temperature chamber at $25 \pm 5^{\circ}\text{C}$ and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.



10.1.4 MEASUREMENT RESULT

LTE BAND 4

LTE Band 4 (QPSK) / Middle Channel / BW10M/1.733GHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	22.55	0.013	2.5ppm	PASS
40		23.13	0.013		
30		27.42	0.015		
20		12.72	0.007		
10		26.32	0.015		
0		35.91	0.020		
-10		35.97	0.020		
-20		12.53	0.007		
-30		19.45	0.011		
25	Maximum Voltage	35.08	0.020		
25	BEP	15.74	0.009		

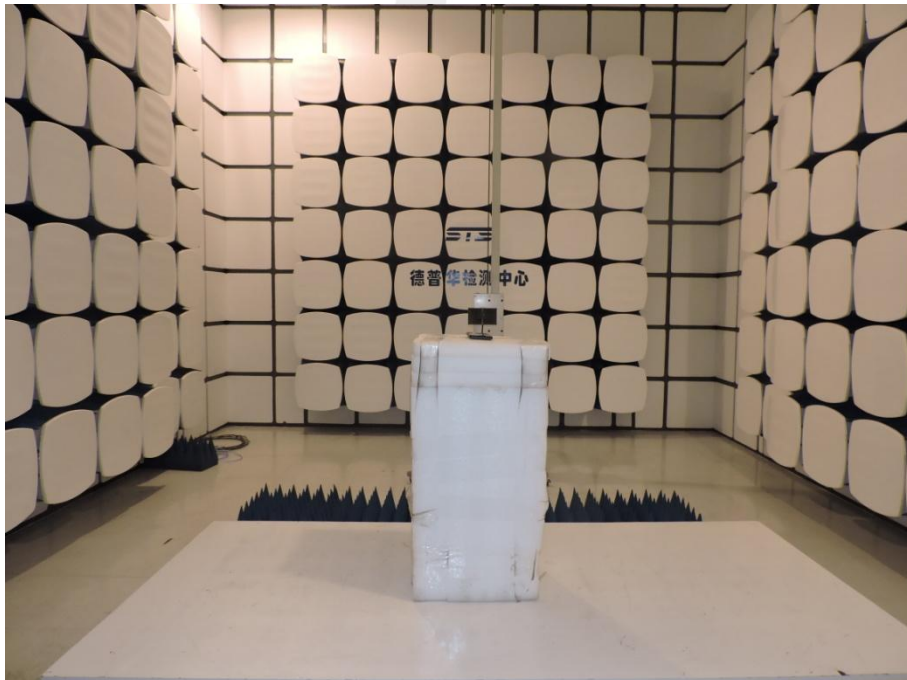
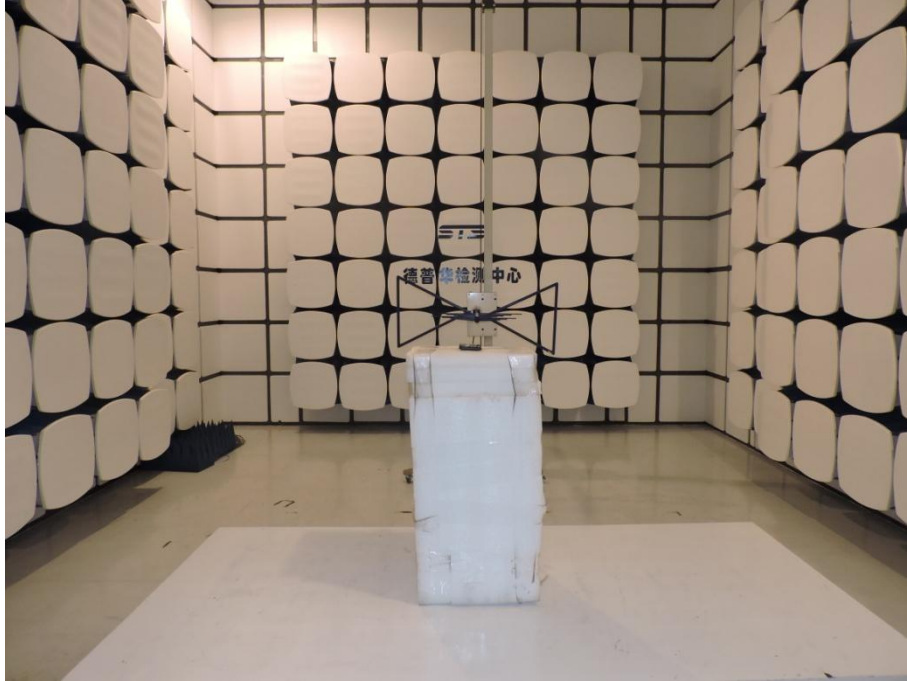
LTE Band 4 (QPSK) / Middle Channel / BW20M/1.733GHz					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	26.36	0.015	2.5ppm	PASS
40		29.25	0.016		
30		15.14	0.009		
20		15.96	0.009		
10		28.56	0.016		
0		19.51	0.011		
-10		33.62	0.019		
-20		15.85	0.009		
-30		22.86	0.013		
25	Maximum Voltage	32.62	0.018		
25	BEP	16.54	0.009		

Note:

1. Normal Voltage = 3.7V ; Maximum Voltage = 5 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

PHOTOS OF TEST SETUP

RADIATED SPURIOUS EMISSION



※※※※※END OF THE REPORT※※※※※